

PA Payroll Exercise for Intermediate Excel

Follow the directions below to create a payroll exercise. Read through each individual direction before performing it, like you are following recipe instructions.

Remember that to move between cells you can use your mouse, the arrow keys on the keyboard, or the Name Box.

Remember, too, that there is usually more than one way to do something. If a different way to do it occurs to you, go ahead and try it! If it doesn't work, you can always click the Undo button.

If you can't remember what a button does, move the cursor over it and pause. A yellow ToolTip will appear describing the button's function.

The gray boxes will contain tips, suggestions, and reminders.

In the instructions, the following terms will be used:

Click – a single left mouse click.

Command - a button displayed on a tab on the Ribbon.

Key – a key on the keyboard.

Part 1: Opening the Excel Program & Entering the Information

1. Locate the *Excel* icon on the computer's desktop and then double click on it to open the program OR
2. Click on the *Start* button and locate the *Excel* program under *All Programs* and then *Microsoft Office*. Click once on the name of the program, *Microsoft Excel*, to open it.
3. Enter the text in the designated cells. REMEMBER that you can move to the next cell down by pressing the *Enter* key and you can move the next cell to the right by pressing the *Tab* key. You can also select the cell you want to type in with a single mouse click and then begin typing the text. Cell References are in *Italics* and cell content is in **Bold**. Note that there is nothing entered in the cells in row 2.

<i>A1</i>	Employee Name	<i>B5</i>	9
<i>A3</i>	Doe	<i>B6</i>	11.25
<i>A4</i>	Jones	<i>B7</i>	14.5
<i>A5</i>	Martin		
<i>A6</i>	Smith	<i>C1</i>	Regular Hours
<i>A7</i>	White	<i>C3</i>	40
<i>A9</i>	Totals	<i>C4</i>	40
<i>A11</i>	Rates	<i>C5</i>	40
<i>A12</i>	Federal Withholding	<i>C6</i>	35
<i>A13</i>	FICA	<i>C7</i>	40
<i>A14</i>	PA Withholding	<i>C12</i>	0.15
<i>A15</i>	Local Withholding	<i>C13</i>	0.065
<i>A16</i>	Overtime Factor	<i>C14</i>	0.0307
		<i>C15</i>	0.01
<i>B1</i>	Hourly Wage	<i>C16</i>	1.5
<i>B3</i>	8.2		
<i>B4</i>	9.45		

Don't get worried if it looks like the text you just typed has disappeared or doesn't fit in the cell. We will fix that later in the exercise.

D1 **Overtime Hours**
D3 **0**
D4 **5**
D5 **9**
D6 **0**
D7 **1**

E1 **Gross Pay**
F1 **Fed. WH**
G1 **FICA WH**
H1 **PA WH**
I1 (letter I and number 1) **Local WH**
J1 **Total Withholding**
K1 **Net Pay**

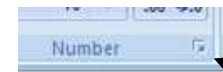
Part 2: Saving & Formatting the Worksheet

Saving the File for the First Time:

1. Click on the *Office Button* and then click on *Save As* from the drop down menu.
2. The *Save As* dialog box will open. Using the down arrow at the right end of the *Save in:* text entry box, select the drive or folder from the drop down menu where you wish to save the exercise by clicking on your choice.
3. In the *File name:* text box, delete **Book1** and type in **Payroll Register**.
4. Click on the *Save* button in the bottom right corner of the *Save As* dialog box. This has performed the initial save of the file. Further on in this exercise you will be instructed to save updates to the file.

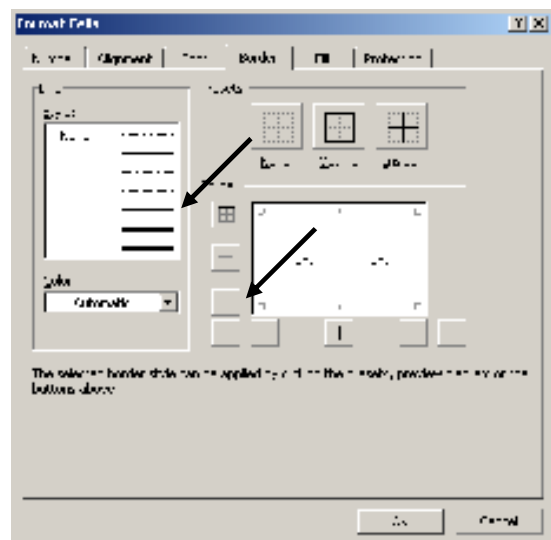
Making the Spreadsheet Readable, Uniform, and Pleasing to the Eye:

1. Select cells A1 thru K1. Click on the dialog box launcher in the *Font*, *Alignment*, or *Number* group on the *Home* tab.
2. When the *Format Cells* dialog box opens, click on the *Alignment* tab. In the *Text alignment* section there are two drop down menus. Under *Horizontal*:, click the down arrow at the end of the box and click on *Center*. Under *Vertical*:, click the down arrow at the end of the box and click on *Center*. Also, click in the checkbox next to *Wrap Text* toward the bottom of the screen. Do NOT click on the *OK* button at this time.
3. With the *Format Cells* dialog box still open, click on the *Font* tab. Under the *Font*: area, use the scroll bar and click on *Tahoma*. On the *Font style*: menu, click on *Bold*. Do NOT click on the *OK* button at this time.




Dialog Box Launcher

4. Click on the *Border* tab. In the *Line Style*: section click once on the line in the second column five lines down. Next, click on the preset button that shows just a line at the bottom. (See picture to the right.)
5. Now, click on the *OK* button.
6. Select cells B3 thru B9 and click on the dialog box launcher in the *Font*, *Alignment*, or *Number* group. Click on the *Number* tab. Under *Category*:, click on *Accounting* and accept the default settings by clicking on the *OK* button.
7. Select cells E3 thru K9. Follow step 6 above to format these cells for *Accounting*.
8. Select cells C9 thru D9. Follow step 6 above



to format these cells for *Accounting*.

9. Select cells *C12* thru *C15*. Click on the dialog box launcher in the *Number* group and make sure you are on the *Number* tab when it opens. Under *Category:*, click on *Percentage* and accept the default settings by clicking on the *OK* button.
10. You may need to resize certain columns to adjust how the text is shown in the cells. To do this, position your mouse pointer over the vertical line separating the columns in the light blue header area where the column letters are displayed. When it changes to a two headed arrow, double click. This will automatically resize the column to the left to fit the longest text in that column. 
11. Update the version of your file saved by clicking on the *Office Button* and *Save* from the drop down menu.

Part 3: Creating a Formula with an Absolute Reference

1. Select cell *E3*. The formula in this cell needs to calculate the Gross Pay, the paycheck amount before taxes are taken out. $\text{Gross Pay} = (\text{Hourly Wage times Regular Hours}) + (\text{Hourly Wage times the Overtime Factor times Overtime Hours})$.
2. To enter this formula into cell *E3*, begin by pressing the = key on the keyboard. Using your mouse, click on cell *B3* and then press the * key on the keyboard. Using your mouse, now click on cell *C3* and then press the + key on the keyboard. Using your mouse, click on cell *B3* and press the * key. Using your mouse, click on cell *C16* and press the * key. Using your mouse, click on cell *D3* and press the *Enter* key on your keyboard.
3. To check your formula, click once again on cell *E3*. The formula in cell *E3* should read **=B3*C3+B3*C16*D3**. The formula in cell *E3* will need to be changed before being copied to cells *E4* to *E7*. All of the cell references are currently Relative which means they will change when copied. In the formula, cell *C16* needs to stay *C16* which means the cell reference must be changed to an Absolute reference.
4. While still in cell *E3*, position your mouse pointer over the **C16** in the *Formula* bar and single click. Move the insertion point using the arrow keys on the keyboard as needed and type a \$ to the left of the **C** and to the left of the **16**.
5. When your formula has been changed to **=B3*C3+B3*\$C\$16*D3**, click on the checkmark in front of the *Formula* bar.
6. With cell *E3* still selected, position your mouse pointer over the *Fill* handle (the little black square in the lower right hand corner of the active cell). When your mouse pointer changes to a thin black cross, click and drag to copy the formula in cell *E3* to cells *E4* thru *E7*.
7. Your worksheet should now look like this:

Clicking on the checkmark on the Formula bar is the same as pressing Enter on your keyboard except that you remain in the cell instead of moving to the cell below.

	A	B	C	D	E	F
1	Employee	Hourly	Regular	Overtime	Gross Pay	Fed.
2	Name	Wage	Hours	Hours		
3	Doe	\$ 8.20	40	0	\$ 328.00	
4	Jones	\$ 9.45	40	5	\$ 448.88	
5	Martin	\$ 9.00	40	9	\$ 481.50	
6	Smith	\$ 11.25	35	0	\$ 393.75	
7	White	\$ 14.50	40	1	\$ 601.75	
8						

Part 4: Entering the Remaining Formulas for Taxes and Net Pay

Formulas may be entered by typing the cell references or by using the Point and Click method used in Part 3 above. Using either method, enter the formulas below into their corresponding cells. Cell References are in *Italics* and cell content is in **Bold**. After typing the formula into the cell, copy the formula to the cells indicated in the last column by using the *Fill* handle as described in step 6 above.

<i>Cell</i>	Enter Formula	<i>Copy Formula from Cell</i>	To Cells
<i>F3</i>	=E3*\$C\$12	<i>F3</i>	F4 to F7
<i>G3</i>	=E3*\$C\$13	<i>G3</i>	G4 to G7
<i>H3</i>	=E3*\$C\$14	<i>H3</i>	H4 to H7
<i>I3</i>	=E3*\$C\$15	<i>I3</i>	I4 to I7
<i>J3</i>	=F3+G3+H3+I3	<i>J3</i>	J4 to J7
<i>K3</i>	=E3-J3	<i>K3</i>	K4 to K7

Rates used for taxes are for example only!!

Part 5: Entering the Sum Functions

Row 9 will contain totals for each column. Instead of using a formula as you did in cells *J3* to *J7*, you will use the Sum function. Remember that functions can be copied just like formulas.

1. Select cell *B9*. Click on the *AutoSum* command in the *Editing* group on the *Home* tab on the *Ribbon*. Σ
2. Excel will automatically fill in cell *B9* with the function **=SUM(B3:B8)**. Press the *Enter* key on your keyboard to accept this function as is.
3. Click on cell *B9* again. Using the *Fill* handle in the lower right hand corner of cell *B9* with the thin black cross mouse pointer, click and drag to copy the function from cell *B9* to cells *C9* thru *K9*. If you see ##### in cells *E9* and *K9*, you will need to adjust the width of columns *E* and *K*.

The screenshot shows an Excel spreadsheet with columns A through D and rows 1 through 8. Column A is 'Employee Name', B is 'Hourly Wage', C is 'Regular Hours', and D is 'Overtime Hours'. Row 9 is labeled 'Totals'. The formula bar shows '=SUM(B3:B8)'. A dashed blue box highlights the range B3:B8. Below the spreadsheet, the formula bar shows the syntax: SUM(number1, [number2], ...).

Part 6: Entering Additional Functions

1. Enter the following information in the cells indicated:

<i>Cell</i>	Content
<i>J11</i>	Maximum
<i>J12</i>	Minimum
<i>J13</i>	Average
<i>J14</i>	Count

2. Select cell *K11*. In this cell, a function will be entered to show the maximum, or highest, Net Pay.
3. In the *Editing* group on the *Home* tab, click the down arrow to the right of the *AutoSum* command. Click on *Max* from the drop down menu.

4. Excel will always try to guess to which cells to apply a function. In this case, it guesses wrong. To change the cells used in the function, with your mouse pointer select cells K3 thru K7. The contents of cell K11 should now read **=MAX(K3:K7)**. Press the *Enter* key on the keyboard.
5. Select cell K12. In this cell, a function will be entered to show the minimum, or lowest, Net Pay. In the *Editing* group again, click the down arrow to the right of the *AutoSum* command. Click on *Min* from the drop down menu.
6. With your mouse pointer, select cells K3 thru K7. The contents of cell K12 should now read **=MIN(K3:K7)**. Press the *Enter* key.
7. Select cell K13. In this cell, a function will be entered to show the average Net Pay. In the *Editing* group again, click the down arrow to the right of the *AutoSum* command. Click on *Average* from the drop down menu.
8. With your mouse pointer, select cells K3 thru K7. The contents of cell K13 should now read **=AVERAGE(K3:K7)**. Press the *Enter* key.
9. Select cell K14. In this cell, a function will be entered to count the number of paychecks. In the *Editing* group again, click the down arrow to the right of the *AutoSum* command. Click on *Count Numbers* from the drop down menu.
10. With your mouse pointer, select cells K3 thru K7. The contents of cell K14 should now read **=COUNT(K3:K7)**. Press the *Enter* key.
11. Click on the *Office Button* and *Save* from the drop down menu to update the version saved of your worksheet.

Your finished worksheet should look like this:

	A	B	C	D	E	F	G	H	I	J	K
1	Employee Name	Hourly Wage	Regular Hours	Overtime Hours	Gross Pay	Fed. WH	SS WH	PA WH	Local WH	Total Withholding	Net Pay
2											
3	Doe	\$ 8.20	40	0	\$ 328.00	\$ 49.20	\$ 21.32	\$ 10.07	\$ 3.28	\$ 83.87	\$ 244.13
4	Jones	\$ 9.45	40	5	\$ 448.88	\$ 67.33	\$ 29.18	\$ 13.78	\$ 4.49	\$ 114.78	\$ 334.10
5	Martin	\$ 9.00	40	9	\$ 481.50	\$ 72.23	\$ 31.30	\$ 14.78	\$ 4.82	\$ 123.12	\$ 358.38
6	Smith	\$ 11.25	35	0	\$ 393.75	\$ 59.06	\$ 25.59	\$ 12.09	\$ 3.94	\$ 100.68	\$ 293.07
7	White	\$ 14.50	40	1	\$ 601.75	\$ 90.26	\$ 39.11	\$ 18.47	\$ 6.02	\$ 153.87	\$ 447.88
8											
9	Totals	\$ 52.40	\$ 195.00	\$ 15.00	\$ 2,253.88	\$ 338.08	\$ 146.50	\$ 69.19	\$ 22.54	\$ 576.32	\$ 1,677.56
10											
11	Tax Rates									Maximum	\$ 447.88
12	Federal Withholding		15.00%							Minimum	\$ 244.13
13	FICA		6.50%							Average	\$ 335.51
14	PA Withholding		3.07%							Count	5
15	Local Withholding		1.00%								
16	Overtime Factor		1.5								

